

THREE-MASK METHOD OF CONSTRUCTING THE FINAL HARD MASK USED FOR ETCHING THE SILICON FINS FOR FINFETS

Abstract

Presented is a three-mask method of constructing the final hard mask used for etching the silicon fins and the source/drain silicon regions for FinFETs, and silicon mesas for non-FinFET devices such as resistors, diodes, and capacitors. More specifically, a first mask is used to create a mandrel; a second mask is used to pattern the mandrel's sidewall spacers; and a third mask is used to pattern the box-shaped structures that are connected by one of the sidewall spacers. An alignment of the gate conductor to the box-shaped structures is provided.